

Work Order ID 92978

November-12-12 3:32:43 PM

92978

Page 1

Item ID: 647.9010

Accept

N900040100

Setup Start ***NS1***

Revision ID:

Item Name: Doubler

Stop ***NS2***

Start Date: 12/11/2012 Start Qty: 10.00

10

Cust Item ID:

Required Date: 03/12/2012 Req'd Qty: 10.00

10

Customer:

Reference:

Approvals: Process Plan: *MLJ*

Date: *12-11-13*

Tooling:

Date:

Run Start ***NR1***

QC:

Date:

SPC (Y/N):

Date:

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr

Revision Nbr

647.9000

n/c

110

0.00

110

Waterjet

Memo

0.00

FLOW CNC Waterjet

1-Cut as per Dwg

Dwg Rev: *N/C*

Prog Rev: *N/C*

2074.063

2-Deburr if necessary

120

QC2- Inspect parts off machine FAI/FAIB

0.00

120

QC

Memo

0.00

Quality Control

10 0 Jan 12-11-25

10 0 Jan 12-11-25

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

DQA: _____ Date: _____

QA Closed: _____ Date: _____

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Work Order Update <input type="checkbox"/>	AGAINST DEPARTMENT/PROCESS <table style="width: 100%;"> <tr> <td>Skid-tube <input type="checkbox"/></td> <td>Crosstube <input type="checkbox"/></td> <td>Water Jet <input type="checkbox"/></td> <td>Engineering <input type="checkbox"/></td> </tr> <tr> <td>Machining <input type="checkbox"/></td> <td>Small Fab <input type="checkbox"/></td> <td>Prod. Eng. Coord. <input type="checkbox"/></td> <td>Quality <input type="checkbox"/></td> </tr> <tr> <td>Thermoforming <input type="checkbox"/></td> <td>Finishing <input type="checkbox"/></td> <td>Rec/Store/Packaging <input type="checkbox"/></td> <td>Other <input type="checkbox"/></td> </tr> <tr> <td>Large Fab <input type="checkbox"/></td> <td>Composite <input type="checkbox"/></td> <td>Supplier <input type="checkbox"/></td> <td></td> </tr> </table>	Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>	Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>	Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>	Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>	
Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>															
Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>															
Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>															
Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>																

Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Doc/Data									
Equip/Tooling									
Operator									
Material									
Setup									
Other									
Process									
Supplier									
Training									
Unapproved									

FAULT CATEGORY

Landing Gear	General	Other
<input type="checkbox"/> Bending	<input type="checkbox"/> Bend	<input type="checkbox"/> Grain
<input type="checkbox"/> Centre Not Concentric to O/S	<input type="checkbox"/> BOM/Route	<input type="checkbox"/> Hardware
<input type="checkbox"/> Cracks	<input type="checkbox"/> Broken/Damaged	<input type="checkbox"/> Inspection Incomplete
<input type="checkbox"/> Crushed/Crimped	<input type="checkbox"/> Burrs	<input type="checkbox"/> Instructions Incomplete/Unclear
<input type="checkbox"/> Cuffs	<input type="checkbox"/> Contamination	<input type="checkbox"/> Maintenance
<input type="checkbox"/> Heat Treat	<input type="checkbox"/> Countersink	<input type="checkbox"/> Mislabelled
<input type="checkbox"/> Inspection Strip in Tube	<input type="checkbox"/> Cut Too Short	<input type="checkbox"/> Misread
<input type="checkbox"/> Ripples in Bend	<input type="checkbox"/> Drill Holes	<input type="checkbox"/> Offset
<input type="checkbox"/> Torque Waves in Extrusion	<input type="checkbox"/> Drawing	<input type="checkbox"/> Out of Calibration
<input type="checkbox"/> Turning Sequence	<input type="checkbox"/> Finish	<input type="checkbox"/> Out of Sequence
<input type="checkbox"/> Wave/Twist in Tube	<input type="checkbox"/> Folio	<input type="checkbox"/> Outside Dimensions
		<input type="checkbox"/> Ovalized
		<input type="checkbox"/> Over/Under tolerance
		<input type="checkbox"/> Part Incorrect
		<input type="checkbox"/> Part Lost/Missing
		<input type="checkbox"/> Part Moved
		<input type="checkbox"/> Positioned Wrong
		<input type="checkbox"/> Power Loss/Surge
		<input type="checkbox"/> Pressure/Forced
		<input type="checkbox"/> Temperature/Cure
		<input type="checkbox"/> Weld
		<input type="checkbox"/> Wrong Stock Pulled
		<input type="checkbox"/> Other

Work Order ID 92978

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92978

Page 2

Item ID: 647.9010

Accept

N900040100

Setup Start ***NS1***

Revision ID:

Item Name: Doubler

Stop ***NS2***

Start Date: 12/11/2012 Start Qty: 10.00 ***10***

Cust Item ID:

Required Date: 03/12/2012 Req'd Qty: 10.00 ***10***

Customer:

Reference:

Approvals: Process Plan: Date:

Tooling: Date:

Run Start ***NR1***

QC: Date:

SPC (Y/N): Date:

Stop ***NR2***

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

130

QC8- Inspect parts - second check

0.00

CAS
15
9-83
12/1/26

10

130

QC

Memo

Quality Control

160

Outsource process-Anodize per QSI017 4.1.10.1

0.00

160

Outsource4

Memo

0.00

Outsource process - Anodize

ISSUE P/O: **18504**
HARD ANODIZE, COLOR BLACK AS PER DWG.(SEE NOTE 2)

12-11-26

170

Receive & Inspect for Damage & Mat'l Certs

0.00

170

Packaging

Memo

0.00

Packaging

12/1/18

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

DQA: _____ Date: _____

QA Closed: _____ Date: _____

Work Order: _____ Part No. _____ NCR No. _____				DISPOSITION Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Work Order Update <input type="checkbox"/>		AGAINST DEPARTMENT/PROCESS <div style="display: flex; justify-content: space-between;"> <div> Skid-tube <input type="checkbox"/> Machining <input type="checkbox"/> Thermoforming <input type="checkbox"/> Large Fab <input type="checkbox"/> </div> <div> Crosstube <input type="checkbox"/> Small Fab <input type="checkbox"/> Finishing <input type="checkbox"/> Composite <input type="checkbox"/> </div> <div> Water Jet <input type="checkbox"/> Prod. Eng. Coord. <input type="checkbox"/> Rec/Store/Packaging <input type="checkbox"/> Supplier <input type="checkbox"/> </div> <div> Engineering <input type="checkbox"/> Quality <input type="checkbox"/> Other <input type="checkbox"/> </div> </div>						
Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector			
Doc/Data <input type="checkbox"/>												
Equip/Tooling <input type="checkbox"/>												
Operator <input type="checkbox"/>												
Material <input type="checkbox"/>												
Setup <input type="checkbox"/>												
Other <input type="checkbox"/>												
Process <input type="checkbox"/>												
Supplier <input type="checkbox"/>												
Training <input type="checkbox"/>												
Unapproved <input type="checkbox"/>												
FAULT CATEGORY												
Landing Gear <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric to O/S <input type="checkbox"/> Cracks <input type="checkbox"/> Crushed/Crimped. <input type="checkbox"/> Cuffs <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Ripples in Bend <input type="checkbox"/> Torque Waves in Extrusion <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube			General <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damaged <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drill Holes <input type="checkbox"/> Drawing <input type="checkbox"/> Finish <input type="checkbox"/> Folio			<input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Maintenance <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Offset <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence <input type="checkbox"/> Outside Dimensions			<input type="checkbox"/> Ovalized <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge _____ _____ _____		<input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other _____ _____ _____	

Work Order ID 92978

92978

Page 3

Item ID: 647.9010

Accept

N900040100

Setup Start *NS1*

Revision ID:

Stop *NS2*

Item Name: Doubler

Start Date: 12/11/2012 Start Qty: 10.00

10

Cust Item ID:

Required Date: 03/12/2012 Req'd Qty: 10.00

10

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start *NR1*

QC:

Date:

SPC (Y/N):

Date:

Stop *NR2*

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID Tool # Plan
Code Accept Reject Reject Insp.
Qty Qty Number Stamp

180

QC5- Inspect part completeness to step on W/O

0.00

180

QC

Memo

0.00

Quality Control

10

DAS
05 12-12-23

190

0.00

190

SprayPaint

Memo

0.00

Spray Painting

PRIME IAW MIL-P-23377J TYPE1 CLASS N AS PER DWG. (SEE NOTE 2)

PRIMER BATCH: 123693

10

12-12-31

200

QC14- Inspect Spray Paint

0.00

200

QC

Memo

0.00

Quality Control

10

DAS
05 13-01-05

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

DQA: _____ Date: _____

QA Closed: _____ Date: _____

Work Order: _____ Part No. _____ NCR No. _____				DISPOSITION Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Work Order Update <input type="checkbox"/>		AGAINST DEPARTMENT/PROCESS <div style="display: flex; justify-content: space-between;"> <div> Skid-tube <input type="checkbox"/> Machining <input type="checkbox"/> Thermoforming <input type="checkbox"/> Large Fab <input type="checkbox"/> </div> <div> Crosstube <input type="checkbox"/> Small Fab <input type="checkbox"/> Finishing <input type="checkbox"/> Composite <input type="checkbox"/> </div> <div> Water Jet <input type="checkbox"/> Prod. Eng. Coord. <input type="checkbox"/> Rec/Store/Packaging <input type="checkbox"/> Supplier <input type="checkbox"/> </div> <div> Engineering <input type="checkbox"/> Quality <input type="checkbox"/> Other <input type="checkbox"/> </div> </div>					
Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector		
Doc/Data <input type="checkbox"/>											
Equip/Tooling <input type="checkbox"/>											
Operator <input type="checkbox"/>											
Material <input type="checkbox"/>											
Setup <input type="checkbox"/>											
Other <input type="checkbox"/>											
Process <input type="checkbox"/>											
Supplier <input type="checkbox"/>											
Training <input type="checkbox"/>											
Unapproved <input type="checkbox"/>											
FAULT CATEGORY											
Landing Gear <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric to O/S <input type="checkbox"/> Cracks <input type="checkbox"/> Crushed/Crimped <input type="checkbox"/> Cuffs <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Ripples in Bend <input type="checkbox"/> Torque Waves in Extrusion <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube			General <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damaged <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drill Holes <input type="checkbox"/> Drawing <input type="checkbox"/> Finish <input type="checkbox"/> Folio			<input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Maintenance <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Offset <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence <input type="checkbox"/> Outside Dimensions			<input type="checkbox"/> Ovalized <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge		<input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other

Work Order ID 92978

92978

Page 4

Item ID: 647.9010

Accept

N900040100

Setup Start *NS1*

Revision ID:

Stop *NS2*

Item Name: Doubler

Start Date: 12/11/2012 Start Qty: 10.00

10

Cust Item ID:

Required Date: 03/12/2012 Req'd Qty: 10.00

10

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start *NR1*

QC:

Date:

SPC (Y/N):

Date:

Stop *NR2*

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID Tool # Plan Accept Reject Reject Insp.
Code Qty Qty Number Stamp

210

Identify as per dwg & Stock Location: 1396

0.00

210

Packaging

Memo

0.00

Packaging

IDENTIFY AS PER APICAL MPP-120 BY STAMPING P# AND REV

13/01/9 10

220

QC21- Final Inspection - Work Order Release

0.00

220

QC

Memo

0.00

Quality Control

13/11/10 10
MK
13-01-09

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

DQA: _____ Date: _____

QA Closed: _____ Date: _____

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Work Order Update <input type="checkbox"/>	AGAINST DEPARTMENT/PROCESS <table style="width: 100%; border: none;"> <tr> <td style="width: 25%;">Skid-tube <input type="checkbox"/></td> <td style="width: 25%;">Crosstube <input type="checkbox"/></td> <td style="width: 25%;">Water Jet <input type="checkbox"/></td> <td style="width: 25%;">Engineering <input type="checkbox"/></td> </tr> <tr> <td>Machining <input type="checkbox"/></td> <td>Small Fab <input type="checkbox"/></td> <td>Prod. Eng. Coord. <input type="checkbox"/></td> <td>Quality <input type="checkbox"/></td> </tr> <tr> <td>Thermoforming <input type="checkbox"/></td> <td>Finishing <input type="checkbox"/></td> <td>Rec/Store/Packaging <input type="checkbox"/></td> <td>Other <input type="checkbox"/></td> </tr> <tr> <td>Large Fab <input type="checkbox"/></td> <td>Composite <input type="checkbox"/></td> <td>Supplier <input type="checkbox"/></td> <td></td> </tr> </table>	Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>	Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>	Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>	Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>	
Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>															
Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>															
Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>															
Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>																

Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Doc/Data									
Equip/Tooling									
Operator									
Material									
Setup									
Other									
Process									
Supplier									
Training									
Unapproved									

FAULT CATEGORY

Landing Gear	General	Other
<input type="checkbox"/> Bending	<input type="checkbox"/> Bend	<input type="checkbox"/> Grain
<input type="checkbox"/> Centre Not Concentric to O/S	<input type="checkbox"/> BOM/Route	<input type="checkbox"/> Hardware
<input type="checkbox"/> Cracks	<input type="checkbox"/> Broken/Damaged	<input type="checkbox"/> Inspection Incomplete
<input type="checkbox"/> Crushed/Crimped	<input type="checkbox"/> Burrs	<input type="checkbox"/> Instructions Incomplete/Unclear
<input type="checkbox"/> Cuffs	<input type="checkbox"/> Contamination	<input type="checkbox"/> Maintenance
<input type="checkbox"/> Heat Treat	<input type="checkbox"/> Countersink	<input type="checkbox"/> Mislabeled
<input type="checkbox"/> Inspection Strip in Tube	<input type="checkbox"/> Cut Too Short	<input type="checkbox"/> Misread
<input type="checkbox"/> Ripples in Bend	<input type="checkbox"/> Drill Holes	<input type="checkbox"/> Offset
<input type="checkbox"/> Torque Waves in Extrusion	<input type="checkbox"/> Drawing	<input type="checkbox"/> Out of Calibration
<input type="checkbox"/> Turning Sequence	<input type="checkbox"/> Finish	<input type="checkbox"/> Out of Sequence
<input type="checkbox"/> Wave/Twist in Tube	<input type="checkbox"/> Folio	<input type="checkbox"/> Outside Dimensions
		<input type="checkbox"/> Ovalized
		<input type="checkbox"/> Over/Under tolerance
		<input type="checkbox"/> Part Incorrect
		<input type="checkbox"/> Part Lost/Missing
		<input type="checkbox"/> Part Moved
		<input type="checkbox"/> Positioned Wrong
		<input type="checkbox"/> Power Loss/Surge
		<input type="checkbox"/> Pressure/Forced
		<input type="checkbox"/> Temperature/Cure
		<input type="checkbox"/> Weld
		<input type="checkbox"/> Wrong Stock Pulled
		<input type="checkbox"/> Other

Picklist Print

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Page 1

Work Order ID: 92978

92978

Parent Item: 647.9010

647 9010

Parent Item Name: Doubler

Start Date: 12/11/2012

Required Date: 03/12/2012

Start Qty: 10.00

Required Qty: 10.00

Comments: IPP REV:A 12.11.01 NEW ISSUE DD VERF:JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M2024T3S.063		Purchased			No	110	sf	112.4200	0.446	4.694 4.737			

M2024T3S 063

2024-T3 .063 sheet

**

4.7

Jim 12-11-25

Location

Loc Qty

Loc Code

MAT022

112.42

119916

0.1

121197

16.32

123654

96

123654

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

DQA: _____ Date: _____

QA Closed: _____ Date: _____

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Work Order Update <input type="checkbox"/>	AGAINST DEPARTMENT/PROCESS <table style="width:100%;"> <tr> <td>Skid-tube <input type="checkbox"/></td> <td>Crosstube <input type="checkbox"/></td> <td>Water Jet <input type="checkbox"/></td> <td>Engineering <input type="checkbox"/></td> </tr> <tr> <td>Machining <input type="checkbox"/></td> <td>Small Fab <input type="checkbox"/></td> <td>Prod. Eng. Coord. <input type="checkbox"/></td> <td>Quality <input type="checkbox"/></td> </tr> <tr> <td>Thermoforming <input type="checkbox"/></td> <td>Finishing <input type="checkbox"/></td> <td>Rec/Store/Packaging <input type="checkbox"/></td> <td>Other <input type="checkbox"/></td> </tr> <tr> <td>Large Fab <input type="checkbox"/></td> <td>Composite <input type="checkbox"/></td> <td>Supplier <input type="checkbox"/></td> <td></td> </tr> </table>	Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>	Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>	Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>	Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>	
Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>															
Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>															
Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>															
Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>																

Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Doc/Data <input type="checkbox"/>									
Equip/Tooling <input type="checkbox"/>									
Operator <input type="checkbox"/>									
Material <input type="checkbox"/>									
Setup <input type="checkbox"/>									
Other <input type="checkbox"/>									
Process <input type="checkbox"/>									
Supplier <input type="checkbox"/>									
Training <input type="checkbox"/>									
Unapproved <input type="checkbox"/>									

FAULT CATEGORY

Landing Gear <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric to O/S <input type="checkbox"/> Cracks <input type="checkbox"/> Crushed/Crimped. <input type="checkbox"/> Cuffs <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Ripples in Bend <input type="checkbox"/> Torque Waves in Extrusion <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	General <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damaged <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drill Holes <input type="checkbox"/> Drawing <input type="checkbox"/> Finish <input type="checkbox"/> Folio	<input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Maintenance <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Offset <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence <input type="checkbox"/> Outside Dimensions
<input type="checkbox"/> Ovalized <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge		
<input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other		

APICAL INDUSTRIES, INC.	ENGINEERING CHANGE NOTIC NO. 03266			SHEET 1 OF 2	
	DWG NO. 647.9000	REV: N/C	PREPARED BY A. QUAN	DATE: 11/15/11	EFFECT ON DWG <input type="checkbox"/> INC. <input checked="" type="checkbox"/> UNINC.
	DWG TITLE: SHEETMETAL				
APPROVED BY: ENGR <i>[Signature]</i>		MFG <i>[Signature]</i>	QC <i>[Signature]</i>	EFF: CURRENT ORDER AND STOCK	
TRANSACTION CODES (TC): A-ADD C-CREATE R-REVISE D-DELETE	REASON: REVISED 647.9014 MATERIAL, REVISED DIMENSIONS OF P/N 647.9012				

SHEET 1, NOTES:

NOTES: UNLESS OTHERWISE SPECIFIED

- 1 MATERIAL: ALUMINUM 2024-T3 PER AMS-QQ-A-250/4
- 2 FINISH: HARD ANODIZE IAW MIL-A-8625 TYPE III, CLASS 2, COLOR BLACK;
PRETREAT PR-148 ADHESION PROMOTER, PRIME IAW MIL-P-23377J, TYPE I, CLASS N
- 3 DEBURR AND BREAK ALL SHARP EDGES
- 4 IDENTIFY IAW MPP-120. LASER ETCH P/N AND REVISION 12PT. CENTURY GOTHIC.
- 5 ALL DIMENSIONS SHOWN PRIOR TO FINISH.
- 6 PART DIMENSIONS CONTROLLED BY CAD MODEL; FILE NAME: 647.9016 DOUBLER.SLDPRD-LAST MODIFIED 06-29-10
- 7 INSPECTION DIMENSIONS SHOWN WITH FINISH APPROX. 3-5 MIL MAX PER FACE.
- 8 MATERIAL: 304SS IAW AMS 5643
- 9 FINISH: PRIME IAW MIL-P-23377J, TYPE I, CLASS N

IS

SHOP COPY
 RETURN TO
 ENGINEERING
 UNCONTROLLED
 SUBJECT TO AMEND.
 WITHOUT NOTICE
 WORK ORDER NO. 92978 MLJ
 12-11-13

S	R	647.9014		STRUT BRACKET	8	9
F/N	TC	PART NUMBER	QTY	DESCRIPTION	MATERIAL	SPECIFICATION
DOCUMENTS EFFECTED:				<input type="checkbox"/> MDL <input type="checkbox"/> INSTALL INSTRU <input type="checkbox"/> ICA <input checked="" type="checkbox"/> BOM	CHANGE CATEGORY <input type="checkbox"/> MAJOR <input checked="" type="checkbox"/> MINOR	DER REVIEW REQUIRED <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO

△ MATERIAL: ALUMINUM 2024-13 PER AMS-QQ-A-250/4

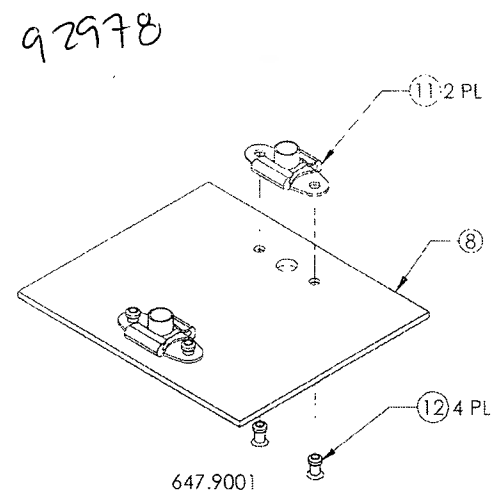
3. DEBURR AND BREAK ALL SHARP EDGES

4. IDENTIFY IAW MPP-120. LASER ETCH P/N AND REVISION 12PT. CENTURY GOTHIC.

5. ALL DIMENSIONS SHOWN PRIOR TO FINISH.

6 PART DIMENSIONS CONTROLLED BY CAD MODEL FILE NAME: 647.9016 DOUBLER.SLDPRT-LAST MODIFIED 06-29-10

7. INSPECTION DIMENSIONS SHOWN WITH FINISH APPROX. 3-5 MIL. MAX PER FACE.



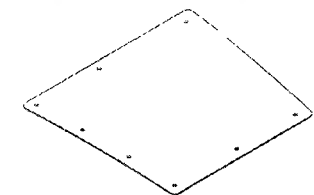
UNINCORPORATED ECN(S)

03213, 03246

4	12	60" 2277	RIVL	CCP76ASS 302	
2	11	601" 900	NUTPLATE	MO: 055 3	
	10	647.9019	HINGE		△
	9	647.9018	DOUBLER		△
1	8	647.9017	DOUBLER		△
	7	647.90.6	DOUBLER		△
	6	647.90.5	DOUBLER		△
	5	647.90.4	STRUT BRACKET		△
	4	647.90.3	PWD CLP		△
	3	647.90.12	FWD CLP		△
	2	647.90.11	DOUBLER		△
	1	647.90.0	DOUBLER		△
		647.9001	DOUBLER ASSY		△
	9001	FIND #	PART #	DESCRIPTION	MAT'L SPEC
QTY				PARTS LIST	

NEXT ASSY (S)		APICAL INDUSTRIES	
647.8900		2608 TEMPLE HEIGHTS DR.	
647.9400		OCEANSIDE, CA. 92056-3512 (760)724-5300	
ORIGINAL DATE APPROVED BY DRAWN BY CHECKED BY DESIGNED APPROVA DATE COMMENTS		SHEETMETAL 747.9000 SCALE: NONE SHEET 1 OF 9	

92978



647.9010 SHOWN
647.9011 OPPOSITE

R.250 THRL
4 PL

8.119
7.715
6.802
6.480

7.010^{+0.010}
-0.000

8.419^{+0.010}
-0.000

DOWN 6.7° R 64.945

.400
.250
0
Ø.160
8 PL

0 .250 .385 .580 2.670 3.817 4.955 7.233 7.384 7.633

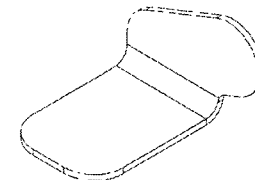
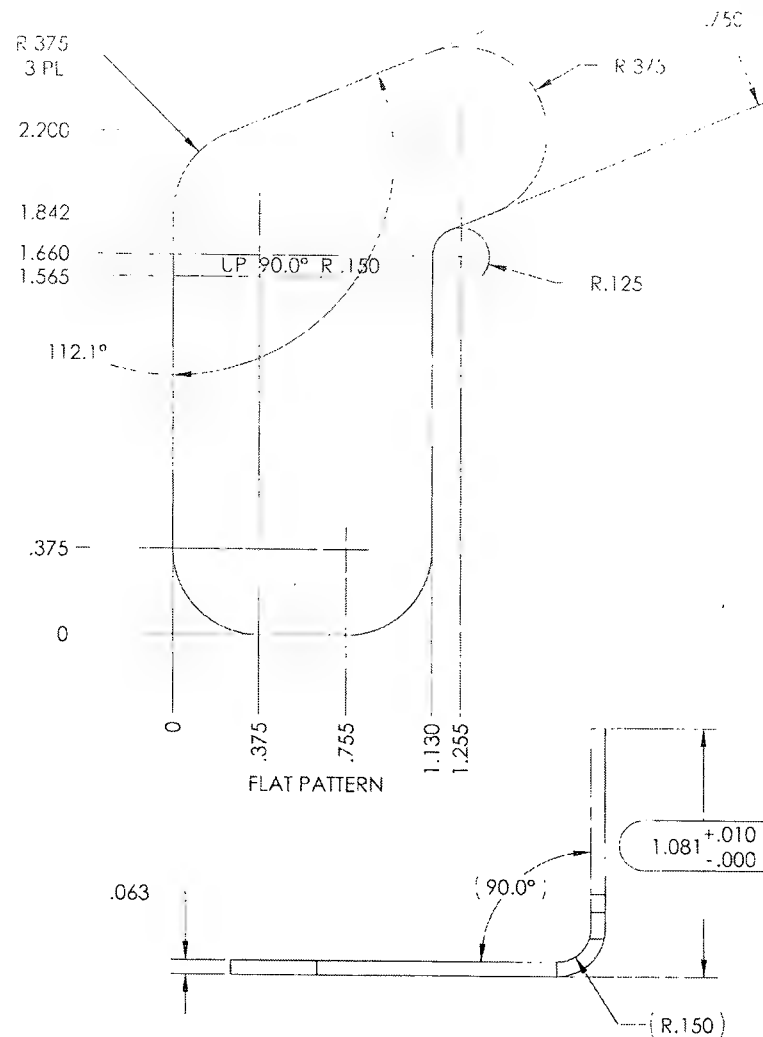
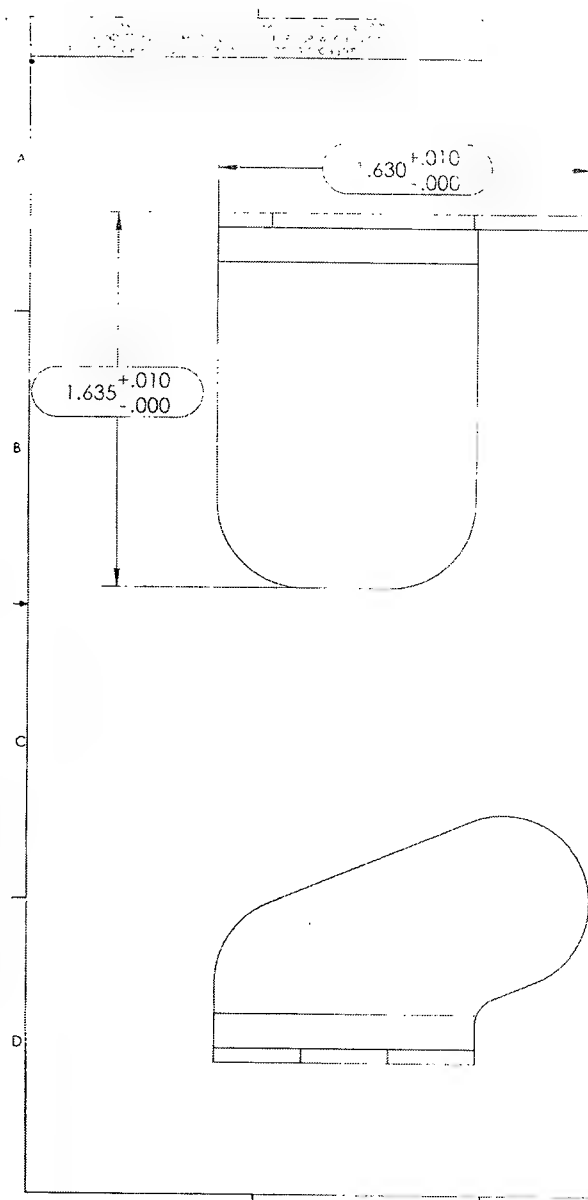
(R64.945)

7.625^{+0.010}
-0.000

FLAT PATTERN

.063

GENERAL NOTE UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES DIMENSIONS ARE IN MILLIMETERS DIMENSIONS ARE IN FEET AND INCHES		APICAL INDUSTRIES 7608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760)724-5300	
SHEETMETAL 647.9000		SCALE: NONE SHEET 2 OF 9	

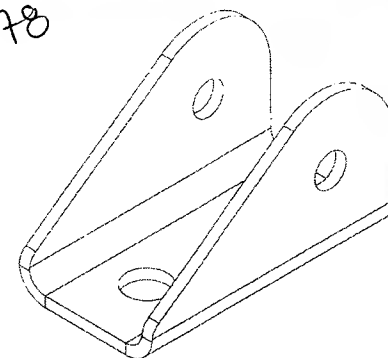


647.9012 SHOWN
647.9013 OPPOSITE

92978

ORIGINAL DATE 04-2-10		APICAL INDUSTRIES	
DRAWN BY	CHECKED	2608 TEMPLE HEIGHTS DR.	
BY KOLAN	P. BAIVIO	OCEANSIDE, CA. 92054-3512 (760)724-5300	
DRAWING APPROVAL		SHEETMETAL	
DATE 04-2-10			
UNLESS OTHERWISE SPECIFIED		REF	QAGEC 004
DIMENSIONS ARE IN INCHES		REV	01/12/16
TYP. PARTS ARE		DWG NO.	647.9000
TYP. PARTS ARE		REV	N/A
TYP. PARTS ARE		SCALE	NONE
TYP. PARTS ARE		SHEET 3 OF 9	

92978



647.9014

R.393
2 PL

2.250 THRU

R.100
2 PL

1.510
1.410

125.4°
2 PL

1.130

54.6°
2 PL

Ø.195 THRU
2 PL

UP 90.0° R.100

UP 90.0° R.100

.393

.250

0

.353

.441

.493

.805

1.567

FLAT PATTERN

Ø.188 THRU

(35.4°)

.512^{+0.010}
-.000

.905^{+0.010}
-.000

.825^{+0.010}
-.000

.699^{+0.010}
-.000

.063

(90.0°)

(R.100)

DESIGNED BY	DATE
DRAWN BY	DATE
CHECKED BY	DATE
APPROVED BY	DATE

APICAL INDUSTRIES
2605 TEMPLE HEIGHTS DR.
OCEANSIDE, CA. 92056-3512 (760)724-5300

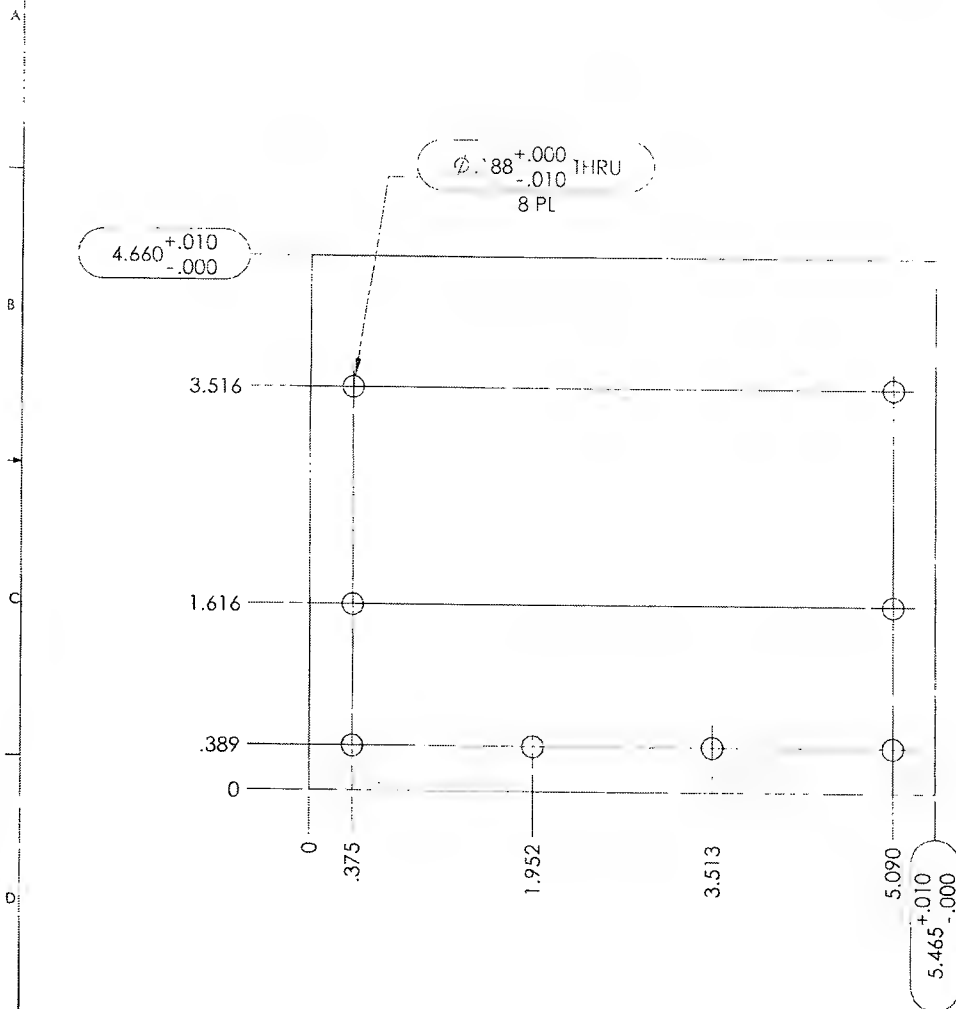
SHEETMETAL

UNITS OF DIMENSIONS	INCHES
UNITS OF WEIGHTS	POUNDS
UNITS OF AREA	SQ. INCHES
UNITS OF VOLUME	CUBIC INCHES

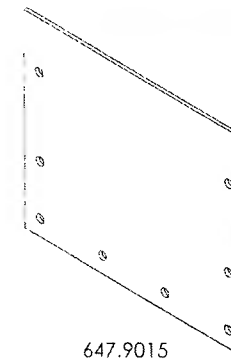
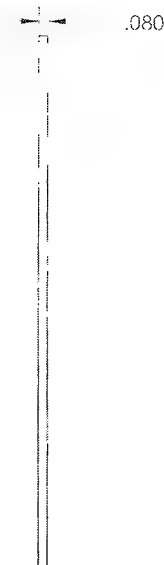
REV	DATE	BY	APP
1	07/25/85		

SCALE: NONE

SHEET 4 OF 9



92978



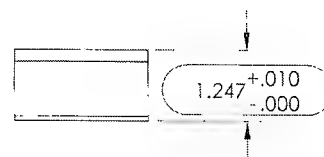
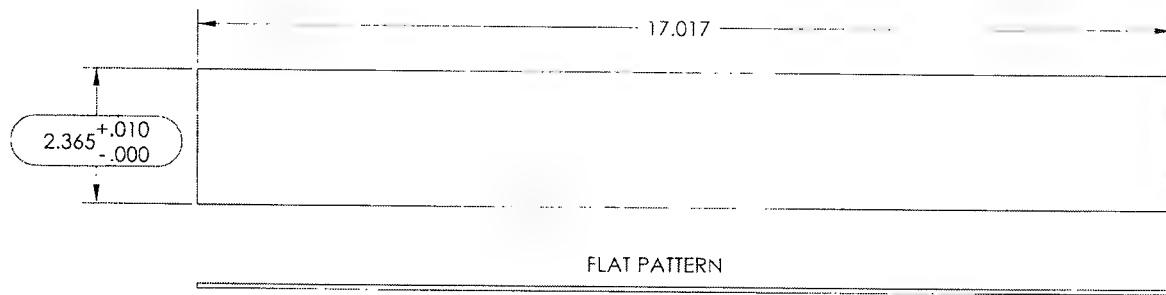
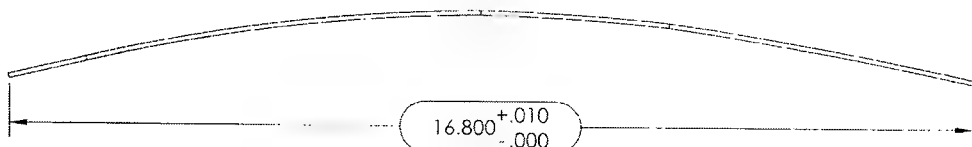
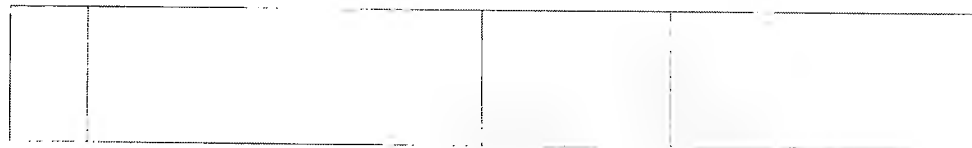
ORIGINAL DATE REVISION DATE DRAWING APPROVAL DESIGNED CHECKED	APICAL INDUSTRIES 2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760)724-5300 SHEETMETAL
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE FRACTIONS DECIMALS ANGLES .005 .010 .015 .020 .030 .040 .050 .060 .070 .080 .090 .100 .125 .150 .175 .200 .250 .300 .375 .500 .625 .750 .875 1.000 1.250 1.500 1.750 2.000 2.500 3.000 3.500 4.000 4.500 5.000 5.500 6.000 6.500 7.000 7.500 8.000 8.500 9.000 9.500 10.000	SHEET CODE B DATE 01/11/26 DWG. NO. 647.9000 SCALE NONE REV N/C SHEET 5 OF 9

A

B

C

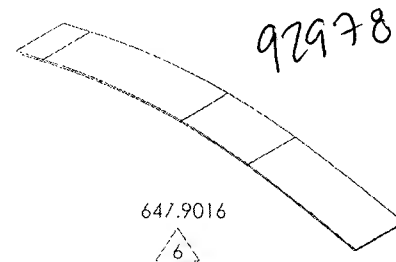
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.080

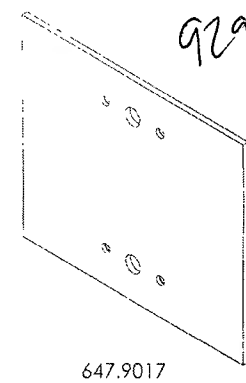
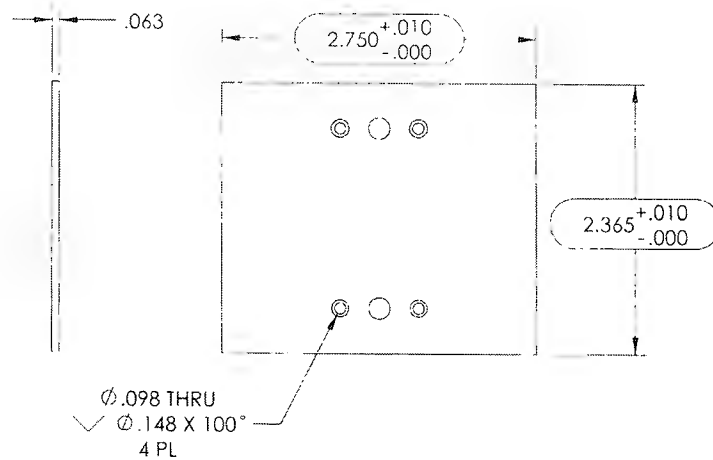
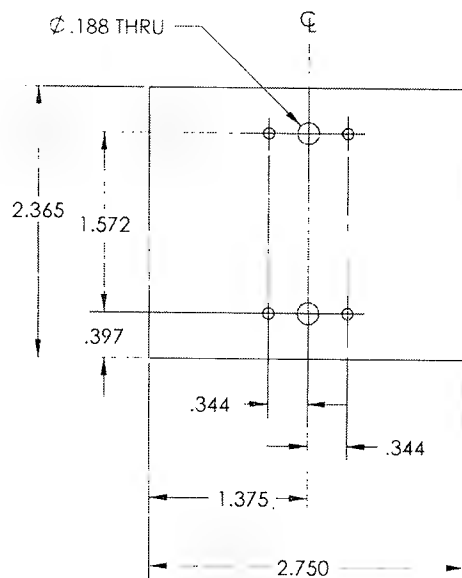
DESIGNER	DATE
MODIFIED	BY
FORWARD	REVISION
FORWARD	REVISION
FORWARD	REVISION
FORWARD	REVISION
FORWARD	REVISION
FORWARD	REVISION
FORWARD	REVISION
FORWARD	REVISION

APICAL INDUSTRIES	
2608 TEMPLE HEIGHTS DR.	
OCEANSIDE, CA. 92056 3512 (760) 724-5300	
SHEETMETAL	
SIZE	QTY
B 07/26	647.9000
SCALE	NONE
SHEET	6 OF 9



647.9016

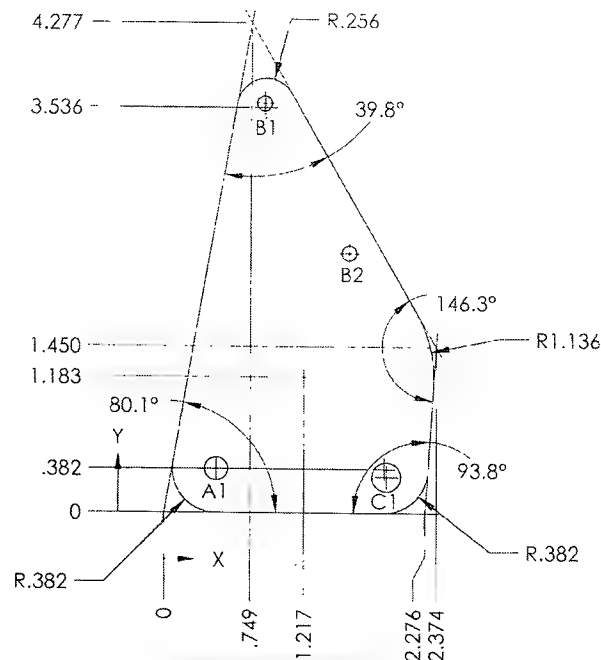
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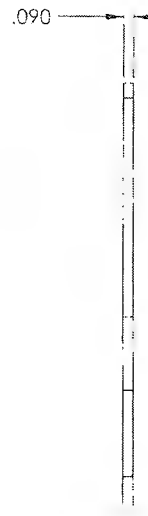
ORIGINAL DATE REVISIONS DESIGNED BY CHECKED BY DRAWING APPROVAL P. BRANCH C. BRANCH		APICAL INDUSTRIES 2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760) 724-5300	
ALL DIMENSIONS UNLESS SPECIFIED DIMENSIONS IN INCHES DECIMALS ARE 1 PLACE DECIMALS 1:10 2 PLACE DECIMALS 1:20 3 PLACE DECIMALS 1:50 4 PLACE DECIMALS 1:100		SHEETMETAL 1ST LAYOUT 1:1 2ND LAYOUT 1:1 3RD LAYOUT 1:1 4TH LAYOUT 1:1 5TH LAYOUT 1:1 6TH LAYOUT 1:1 7TH LAYOUT 1:1 8TH LAYOUT 1:1 9TH LAYOUT 1:1 10TH LAYOUT 1:1 11TH LAYOUT 1:1 12TH LAYOUT 1:1 13TH LAYOUT 1:1 14TH LAYOUT 1:1 15TH LAYOUT 1:1 16TH LAYOUT 1:1 17TH LAYOUT 1:1 18TH LAYOUT 1:1 19TH LAYOUT 1:1 20TH LAYOUT 1:1 21ST LAYOUT 1:1 22ND LAYOUT 1:1 23RD LAYOUT 1:1 24TH LAYOUT 1:1 25TH LAYOUT 1:1 26TH LAYOUT 1:1 27TH LAYOUT 1:1 28TH LAYOUT 1:1 29TH LAYOUT 1:1 30TH LAYOUT 1:1 31ST LAYOUT 1:1 32ND LAYOUT 1:1 33RD LAYOUT 1:1 34TH LAYOUT 1:1 35TH LAYOUT 1:1 36TH LAYOUT 1:1 37TH LAYOUT 1:1 38TH LAYOUT 1:1 39TH LAYOUT 1:1 40TH LAYOUT 1:1 41ST LAYOUT 1:1 42ND LAYOUT 1:1 43RD LAYOUT 1:1 44TH LAYOUT 1:1 45TH LAYOUT 1:1 46TH LAYOUT 1:1 47TH LAYOUT 1:1 48TH LAYOUT 1:1 49TH LAYOUT 1:1 50TH LAYOUT 1:1 51ST LAYOUT 1:1 52ND LAYOUT 1:1 53RD LAYOUT 1:1 54TH LAYOUT 1:1 55TH LAYOUT 1:1 56TH LAYOUT 1:1 57TH LAYOUT 1:1 58TH LAYOUT 1:1 59TH LAYOUT 1:1 60TH LAYOUT 1:1 61ST LAYOUT 1:1 62ND LAYOUT 1:1 63RD LAYOUT 1:1 64TH LAYOUT 1:1 65TH LAYOUT 1:1 66TH LAYOUT 1:1 67TH LAYOUT 1:1 68TH LAYOUT 1:1 69TH LAYOUT 1:1 70TH LAYOUT 1:1 71ST LAYOUT 1:1 72ND LAYOUT 1:1 73RD LAYOUT 1:1 74TH LAYOUT 1:1 75TH LAYOUT 1:1 76TH LAYOUT 1:1 77TH LAYOUT 1:1 78TH LAYOUT 1:1 79TH LAYOUT 1:1 80TH LAYOUT 1:1 81ST LAYOUT 1:1 82ND LAYOUT 1:1 83RD LAYOUT 1:1 84TH LAYOUT 1:1 85TH LAYOUT 1:1 86TH LAYOUT 1:1 87TH LAYOUT 1:1 88TH LAYOUT 1:1 89TH LAYOUT 1:1 90TH LAYOUT 1:1 91ST LAYOUT 1:1 92ND LAYOUT 1:1 93RD LAYOUT 1:1 94TH LAYOUT 1:1 95TH LAYOUT 1:1 96TH LAYOUT 1:1 97TH LAYOUT 1:1 98TH LAYOUT 1:1 99TH LAYOUT 1:1 100TH LAYOUT 1:1	
SCALE NONE		SHEET 7 OF 9	

[illegible]

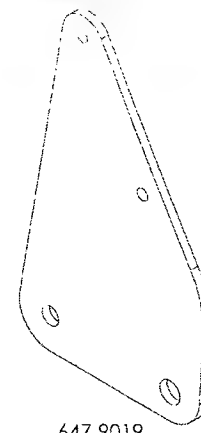
PR2



TAG	X LOC	Y LOC	SIZE
A1	.455	.382	Ø.20 THRU
B1	.867	3.573	Ø.130 THRU
B2	.614	2.265	Ø.130 THRU
C1	1.939	.312	Ø.250 THRU

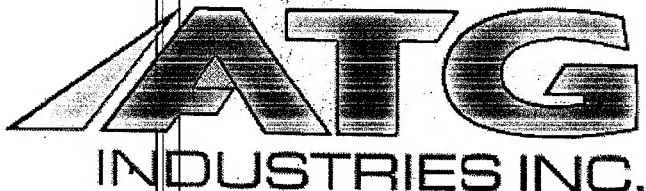


92978



647.9019

ORIGINAL DATE REVISED DATE PREPARED BY DRAWING APPROVAL DESIGNED BY CHECKED BY		APICAL INDUSTRIES 2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3612 (760)724-5300	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE FINISHES SPALLS EXCEPTED ANGLES		SHEETMETAL PART CODE B 07125	DATE 647.9000 NYC
SCALE NONE		SHEET 9 OF 9	



A.T.G. Industries Inc.
731, rue Industrielle Rd.
PLATING DEPARTMENT
Rockland, On K4K 1T2
Canada
Ph: (613) 446-4544
Fax: (613) 446-4556

Pack List

Number: 62107

Date: 12-Dec-12

To

DART AEROSPACE LTD
1270 ABERDEEN ST.
HAWKESBURY, ON K6A 1K7
Canada

Ship To

DART AEROSPACE LTD
1270 ABERDEEN ST.
HAWKESBURY, ON K6A 1K7
Canada

Ph: 613-632-5200

Fax: 613-632-1185

Ph: 613-632-5200

Fax: 613-632-1185

Terms	Ship Via
Quantity	Description
1 lot	Part: ASST Rev:
	8 PCS 647.1610 5 PCS 647.1612 2 PCS 647.1713 6 PCS 647.1811 1 PC 647.1816 1 PC 647.1817 8 PCS 647.1818 11 PCS 646.3210 20 PCS 646.3313 10 PCS 646.3717 20 PCS 646.3717 16 PCS 647.4610 10 PCS 649.4811 10 PCS 649.4812 24 PCS 649.4814 30 PCS 649.4815 6 PCS 647.7913 3 PCS 647.7919 10 PCS 647.9010 10 PCS 647.9011 15 PCS 647.9012 40 PCS 647.9013 60 PCS 646.9710 HARD ANODIZE BLACK MIL-A-8625 TYPE III CLASS 2 Job: 20120768
	PO: PO18506
	Line:
Certificate of Conformance	
A.T.G. Industries certifies that all items in this shipment are in conformance with all requirements, specifications and drawings referenced in the purchase order.	
ISO 9001 : 2008 REGISTERED ATG SALES-2010 TERMS APPLY	
DATE: 12/12/12	



A.T.G. Industries Inc.
731, rue Industrielle Rd.
PLATING DEPARTMENT
Rockland, On K4K 1T2
Canada
Ph: (613) 446-4544
Fax: (613) 446-4556

Pack List

Number: 62107

Date: 12-Dec-12

To

DART AEROSPACE LTD
1270 ABERDEEN ST.
HAWKESBURY, ON K6A 1K7
Canada

Ship To

DART AEROSPACE LTD
1270 ABERDEEN ST.
HAWKESBURY, ON K6A 1K7
Canada

Ph: 613-632-5200

Fax: 613-632-1185

Ph: 613-632-5200

Fax: 613-632-1185

Terms	Ship Via
Quantity	Description
	CERTIFIED SIGNATURE : <u><i>mn</i></u>
	RECEIVER SIGNATURE : <u><i>[Signature]</i></u>